

THE CLAIMS

What is claimed is:

1. A method for preparing an aroma-containing component which releases an aroma having increased amounts of desirable flavor or sensory characteristics, which method comprises treating the aroma-containing component with an aroma-improving agent of a nucleophile that contains at least one atom having at least one lone pair of electrons that chemically interacts with compounds associated with the aroma-containing component to generate an improved aroma that contains (a) increased amounts of compounds that provide or improve the desirable flavor or sensory characteristics of the aroma or (b) reduced amounts of compounds that suppress desirable flavor characteristics or contribute to or generate undesirable characteristics, and storing the treated aroma-containing component prior to contact with a further component of a food, beverage, food-forming or beverage-forming material and optionally with a liquid to form a product for consumption so that the product will contain an improved or enhanced aroma compared to an untreated aroma-containing component.

2. The method of claim 1, wherein the aroma-improving agent is a nucleophile that contains at least one atom of sulfur, nitrogen, oxygen or carbon and contains or generates thiols and reacts with compounds associated with the aroma-containing agent to generate desirable compounds or remove undesirable reactive compounds.

3. The method of claim 1, wherein the improving agent is SO₂, a sulfite or a substance that contains or generates a sulfite, a thiol, an amine or an amino acid.

4. The method of claim 1, wherein the aroma-improving agent comprises cysteine or glutathione or one of their salts.

5. The method of claim 1, wherein the aroma-improving agent is added to a aroma-containing component that is subsequently processed to obtain the improved aroma.

6. The method of claim 1 wherein the aroma-containing component is coffee beans which are treated prior to roasting by soaking the beans in a solution of the aroma-improving agent, by mixing a powder of the aroma-improving agent with the beans or by exposing the beans to a gaseous environment that contains the aroma-improving agent, and then obtaining the improved aroma by roasting of the treated coffee beans.

7. The method of claim 1 wherein the aroma-containing component is coffee beans which are roasted to generate an aroma and the method comprises contacting the aroma with the aroma-improving agent to form the improved aroma, wherein the aroma contacts a gaseous environment that contains the aroma-improving agent, a solution of the aroma-improving agent, or a solid form of the aroma-improving agent that is optionally supported by a carrier.

8. The method of claim 1 wherein the aroma-containing component is coffee beans which are roasted and the method comprises quenching the roast beans with a solution of the aroma-improving agent, and then grinding the quenched beans to generate the improved aroma.

9. The method of claim 1 which further comprises roasting the coffee beans and grinding the roasted beans to obtain the improved aroma, wherein the aroma-improving agent is added to the beans during the grinding step.

10. The method of claim 1 wherein the aroma-containing component is Robusta coffee beans and the aroma-improving agent reduces harsh, rubbery, earthy notes and enhance smoothness.

11. The method of claim 1 wherein the aroma-containing component is low grade Arabica coffee beans and the aroma-improving agent reduces the fermented, baggy, woody, groundsey, or cereal notes and enhance roastiness.

12. The method of claim 1 wherein the aroma-containing component comprises roast and ground coffee particles and the aroma-improving agent is added before dispensing of a coffee beverage made by combining water with the particles.

13. The method of claim 14 which further comprises extracting the particles with water to form a solution, stripping volatiles from the solution with steam, and condensing the stripped volatiles to obtain an aroma concentrate, wherein the aroma-improving agent is added to the extraction water, the stripping steam or the aroma concentrate to provide the improved aroma.

14. An aroma-containing component which is treated with a nucleophile to release an improved aroma compared to untreated aroma-containing components, wherein the aroma has increased amounts of desirable flavor and sensory characteristics, decreased undesirable flavor or sensory characteristics, or both, and the treated aroma-providing component is stored prior to contact with a further component of a food, beverage, food-forming or beverage-forming material and optionally with a liquid to form a product for consumption which product so that the product will contain an improved or enhanced aroma compared to an untreated aroma-containing component.

15. The component of claim 14 wherein the aroma comprises one or more of the following characteristics compared to untreated components:

increased amounts of thiols; or
the same or decreased amounts of carbonyl, aldehyde or diketone moieties,
so that the improved aroma comprises greater perceptible levels of roasty, sulfury, nutty, freshness and overall good flavor notes, with a decrease in rubbery, baggy, harsh, woody, groundsey, processey, pruneey, molasses, oxidized or fermented notes.

16. The component of claim 15 wherein the aroma-containing component is a coffee aroma generating material that is processed to provide coffee aroma.

17. The component of claim 16, wherein the coffee aroma is obtained from Robusta coffee beans or low quality Arabica coffee beans, wherein the sensory characteristics of the aroma are released to a lesser amount but for a longer time compared to an untreated component.

18. The component of claim 15, wherein, when a food or beverage that contains the aroma-containing component is prepared, 65 to 90% of the sensory characteristics are

initially released with the remaining amount released over a period of about 3 to 25 minutes.

19. A treated aroma-containing component obtained from the process according to claim 1.